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The faunal remains from Magogo and Mhlopeni: small stock herding in the Early Iron Age of Natal

by

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ABSTRACT

The Early Iron Age site of Magogo has yielded one of the best-preserved faunal assemblages for this period in South Africa. For the first time we have been able to identify the remains of both sheep and goats in Natal during the sixth century A.D. Evidence for the presence of cattle also exists, but these animals appear to have been relatively scarce. The assemblage may provide the earliest evidence for domestic dog in South Africa. Nyala are also identified in an area well outside that of their current distribution. A very high proportion of young ovicaprines in the sample may be possible evidence for environmental deterioration.

INTRODUCTION

Faunal assemblages from Early Iron Age (EIA) sites in southern Africa are usually small and characterised by a high degree of fragmentation and a low proportion of identifiable material. The result is a fragmented and tantalisingly incomplete picture of Man/animal relationships in the fourth to eighth centuries A.D. It is difficult to identify clearly the species of domestic animals present on these sites, and the evidence is in most cases inadequate to allow more than tentative statements on the relative importance of those species which have been identified.

One of our primary aims is to ascertain the dates of the earliest appearance of domestic breeds in different parts of the country and to look at the relative importance of each animal group to early communities. Natal has now provided a good faunal sample for the early part of this time span and an excellent sample for the latest part. These are the assemblages from Magogo (Grandmother) and Ndondondwane respectively. The Magogo assemblage forms the basis for this report. The excavation and cultural material are described by Maggs & Ward 1984. The description of a small but contemporary assemblage from the nearby site of Mhlopeni is included in both papers.

METHOD OF ANALYSIS

The Magogo site was excavated under the direction of Dr T. M. O'C. Maggs in 1979. The excavations concentrated on a series of pits and features, not all of which yielded faunal material. The material belongs to at least two cultural phases of the EIA and has been analysed accordingly. The earliest (Group 1) material has been dated to A.D. 590 and includes Pits 1, 2, 5, 13a, 21 and the Ash Heap and Slag Heap.

Group 3 is the later phase (A.D. 760) and includes Pits 6 and 13b, while the material from Pits 4, 5a and 15 belongs with a culturally intermediate Group 2 which could belong chronologically with Group 1 or 3 or could be truly intermediate in time (Maggs & Ward 1984).

The faunal material was pre-sorted at the Natal Museum. All the material was submitted for analysis and was checked and analysed according to the procedures developed at the Transvaal Museum (Voigt 1981, 1983). The 'miscellaneous skeletal parts' included all material which could not be used for identification purposes such as vertebral, skull and rib fragments. This group of bones was counted and weighed, as were the 'bone flakes', which were also measured.

Identifiable material was classified as closely as possible. Much of the bovid material was either from sheep or goats and would previously have been listed as '*Ovis/Capra*' material. During 1983, Dr Angela von den Driesch spent three months in the Department of Archaeozoology. The purpose of her visit was to test whether the osteological criteria set up by Boessneck, Müller & Teichert (1964) for the separation of *Ovis aries* and *Capra hircus* could be used in the southern African situation. Her work confirmed that these criteria could be used and they are now being applied to faunal assemblages analysed in this Department. Thus the Magogo ovicaprine material has been subdivided as far as is possible into *O. aries* and *C. hircus*. The identified material is described in terms of minimum numbers of individuals (MNI). During the last few years much criticism has been levelled at this system. It is a system which aims at defining the *minimum number* of individuals of any one species as opposed to one which is concerned only with *proportions* of species, thus allowing some interpretation of the material. In order to satisfy critics of the system the weight of material belonging to each group is given in addition to the usual count of bones.

All the recorded data are housed in the Department of Archaeozoology, while the faunal assemblage is housed in the Natal Museum.

DESCRIPTION OF THE ASSEMBLAGE

The excavations yielded a total bone sample of 6 078 pieces with a total weight of 8 575 gm. Just over 50 % of the assemblage comes from the pits and features belonging to Group 1. There is almost an equal quantity of bovid and non-bovid remains in the total sample; however the percentage by weight of non-bovid remains is extremely small. The large proportion of non-bovid remains is due to the very large number of reptile and amphibian specimens (eg. 287 snake bones in Pit 4). The proportion of identifiable material is slightly higher than is usual in Iron Age collections; this is mirrored in a slightly lower proportion of miscellaneous skeletal parts. Details of the total bone sample are given in Table 1.

An assemblage which comes from a series of pits poses a special problem in that it can legitimately be argued that MNI counts could be affected by the possibility that a single animal could be represented in more than one pit or feature. To check this possibility the total tooth lists for *Ovis/Capra* were examined for possible duplication of specimens across the features. Without taking into account the finer definition provided by tooth age classes, the minimum number of individuals possible is 20. When the age classes are taken into account the minimum number (which cuts across the presence of *O. aries* and *C. hircus*, which are largely identified on the basis of postcranial material) is 26.

TABLE 1

Magogo. Total bone sample: Groups 1, 2 and 3

Description	Group 1		Group 2		Group 3		Total			
	No.	Wt.	No.	Wt.	No.	Wt.	No.	%	Wt.	%
Bovid teeth	102	410	34	190	120	510	256	4,2	1110	12,9
Ovicaprine skeletal parts	273	1070	59	380	94	290	426	7,0	1740	20,3
Other bovid skeletal parts	46	530	3	10	7	160	56	0,9	700	8,4
Total bovid remains	421	2010	96	580	221	960	738	12,1	3550	41,4
Non-bovid remains	386	160	366	30	21	20	773	12,7	210	2,5
Miscellaneous skeletal parts	1668	1210	431	550	587	605	2686	44,2	2365	27,6
Bone flakes	1441	1750	233	450	207	250	1881	31,0	2450	28,6
Total	3916	5130	1126	1610	1036	1835	6078		8575	
Total: burnt	764		57		77		898	14,8		
butchered	80		30		24		134	2,2		
gnawed (rodents)	55		16		16		87	1,43		
carnivore damage	25		7		7		39	0,6		

Weight in grams

The total MNI count for *Ovis*/*Capra* given in Table 2 is 29; the maximum possible overestimation of the number of individuals in this group through all the pits and features is therefore three. When postcranial material is summarised in the same way the minimum number possible is 15. In any assemblage such as this, therefore, the total MNI count can only be used as an indicator of the general overall trend and each pit has to be considered separately. This phenomenon has been commented on by Plug (1984). The need to consider each pit separately places severe limitations on the interpretation of material in terms of meat weights and overall proportions. This problem can only be circumvented by providing an adjusted total MNI count.

SPECIES REPRESENTED

A total list of the species present is given in Table 2 and the list of species and basis of identification for each pit and feature in Table 3.

Group 1

Pit 1

This pit yielded a collection of 1 152 bones (1 300 gm) with an MNI count of 21. Six specimens are ovicaprines, of which two have been identified as *O. aries* and one as *C. hircus*. *Bos taurus* is represented only by a fragment of a right $\overline{\text{M3}}$. The MNI list is numerically dominated by non-domestic animals, most of which are rodents, reptiles or amphibians. This is also one of the four pits which include

TABLE 2.

Magogo. Species present in major samples. Expressed in terms of minimum numbers of individuals; numbers of juveniles given in parenthesis

Species			Group 1					Group 2			Group 3		Total	% of
A. Domestic	Pit 1	Pit 2	Pit 5	Pit 13A	Pit 21	Ash Heap	Slag Heap	Pit 4	Pit 5A	Pit 15	Pit 6	Pit 13B	MNI	Total
Homo sapiens sapiens (Man)	0	1	0	1	0	1	0	0	0	0	0	(1)	2,6	4
Canis familiaris (Dog)	0	0	0	0	0	0	1	(1)	0	0	0	c.f. 1	1,9	3
Bos taurus (Cattle)	1	1	0	0	1	0	1	(1)	2(1)	0	1	0	5,1	8
Ovis aries (Sheep)	2(1)	1	1	0	0	3(2)	2(1)	2	1	2(1)	(1)	3(2)	11,5	18
Capra hircus (Goat)	1	1	2(1)	0	0	2	0	0	1	1	0	(1)	5,7	9
Ovis/Capra (Sheep or Goat)	(3)	(3)	0	1	1	(3)	2	(1)	(1)	1	2	11(10)	18,5	29
Total domestic	7	7	3	2	2	9	6	5	5	4	4	17	45,2	71
B. Non-domestic														
Canis mesamelas (Black-backed jackal)	0	0	0	0	0	0	0	0	0	0	0	1	0,6	1
Canis adustus											0	0	0,6	1
(Side-striped jackal)	0	0	(1)	0	0	0	0	0	0	0	0	1	0,6	1
Panthera pardus (Leopard)	0	0	0	0	0	0	0	0	0	0	0	1	0,6	1
Potamochoerus porcus (Bushpig)	0	0	0	0	0	0	0	0	0	0				
Tragelaphus angasi (Nyala)	0	0	0	0	0	0	1	0	0	0	0	0	0,6	1
Tragelaphus scriptus (Bushbuck)	0	0	0	0	0	2	0	0	0	0	0	0	1,3	2
Sylvicapra grimmia (Common duiker)	0	0	0	0	0	1	0	0	0	0	0	0	0,6	1
Pelea capreolus (Grey rhebok)	0	0	0	0	0	0	1	0	0	0	1	0	1,3	2
Bov I	1	1	0	0	0	(1)	1	(1)	(1)	0	1	1	5,1	8
Bov II	0	0	0	0	0	0	(1)	0	0	0	0	0	0,6	1
Bov III	0	0	0	0	0	1	0	0	0	0	0	0	0,6	1
Lagomorph	0	0	0	0	0	0	0	0	1	0	1	0	1,3	2
Aethomys chrysophilus (Red veld rat)	0	0	0	0	0	0	0	2	0	0	0	0	1,3	2
Praomys natalensis (Multimammate mouse)	0	1	1	0	0	7	0	1	0	0	0	0	6,4	10
Rodent	4	1	4	0	0	2	0	0	0	0	2	0	8,3	13
Francolinus c.f. swainsonii or *afer* (either Swainson's or red-necked francolin); Bird	0	0	0	0	1	1	0	0	0	0	0	0	1,3	2
Tortoise	1	1	0	0	0	1	1	0	0	0	0	0	2,6	4
Snake	0	0	0	0	0	0	0	1	0	0	0	0	0,6	1
Varanus sp.	1	0	0	0	0	0	0	0	0	0	0	0	0,6	1
Agama sp. (Plated lizard)	1	1	1	0	0	0	0	0	0	0	0	0	1,9	3
Xenopus sp. (Platana)	0	0	0	0	0	0	0	1	0	0	0	0	0,6	1
Bufo sp. (Frog)	1	1	5	0	0	1	1	0	0	1	0	1	7,0	11
cf. *Pyxicephalus* (Bullfrog)	1	0	1	0	0	0	0	0	0	0	0	0	1,3	2
Fish *(Labio* sp. *Silurid, Cichlid)*	2	1	0	0	0	2	0	0	1	0	0	0	3,8	6
Achatina sp. (Large African landsnail)	1	1	0	0	1	1	0	1	0	0	0	0	3,2	5
Large freshwater bivalve	1	1	0	0	0	1	0	0	0	0	0	0	1,9	3
Total non-domestic	14	9	13	0	2	21	6	7	3	1	5	5	55,4	87
Total MNI	21	16	16	2	4	30	12	12	8	5	9	22		157

fish remains. The presence of amphibian and lizard remains in the pit fillings may be a fortuitous association due to these creatures' spending the dry season in the slightly looser (and therefore presumably damper) fill in the pits. However, they are so consistent a feature in this assemblage as to suggest that the association is not fortuitous and that they may represent food remains of the inhabitants. Bovid remains constitute 11,3 % of the identified sample as opposed to 4,3 % non-bovids in terms of identified fragments. The relevant percentages by weight are 39,2 % and 3,1 %.

Pit 2

Although Pit 2 yielded a sample less than half the size of Pit 1 (547 fragments weighing 740 gm), this represented 7 domesticates. On the basis of teeth the ovicaprine specimens could not be the same individuals as those in Pit 1 nor the

TABLE 3

Magogo. Species present. Groups 1, 2 and 3.
Tooth row: number of tooth rows; teeth in rows listed in columns according to eruption.

		Teeth				Skeletal part		
Species	MNI	Tooth rows	Deciduous	Unerupted	Permanent	Cranial	Postcranial	Shell or Carapace fragments
Group 1								
Pit 1								
Bos taurus	1				2			
Ovis/Capra	5 (4 Juveniles)	2	13	4	11	7	85	
Ovis aries	2 (1 Juvenile)	1	3	1	1		8	
Capra hircus	1	1			6			
Bov. I	1						1	
Rodent (murid sized)	3				3		7	
Rodent (medium sized)	1						2	
Tortoise	1							1
Varanus sp.	1					1		
Agama sp.	1					1		
Bufo sp.	1					21		
Bullfrog	1					4		
Fish (Siluridae)	1					1	2	
Cichlid	1					1		
Achatina sp.	1							3
Freshwater mollusc	1							1
Pit 2								
Homo sapiens sapiens	1				2			
Ovis aries	1						1	
cf. *Capra hircus*	1				1			
Ovis/Capra	5 (2 Juveniles, 1 Foetal/ neonate)	3	3	3	18	5	34	
Bov. I	1						2	
Bov. III (cf. *B. taurus*)	1						10	
Praomys natalensis	1				1		3	
Large rodent	1					1	1	
Tortoise	1							1
Agama sp.	1					6		
Bufo sp.	1						5	
Clarias sp.	1						1	
Achatina sp.	1							1
Large freshwater bivalve (edge abraded)	1							1
Pit 2 (Gully)								
Bos taurus	1						1	
Ovis/Capra	2 (1 Juvenile)				1		6	
Bov. I	1						2	
cf. *Hippopotamus amphibius*	1 (sub-adult)						1	

Magogo. Species Present (*continued*)

		Teeth				Skeletal part		
Species	MNI	Tooth rows	Deciduous	Unerupted	Permanent	Cranial	Postcranial	Shell or Carapace fragments
Phacochoerus aethiopicus	1				1			
Tortoise	1							1
Pit 5								
Canis cf. *adustus*	1 (4–8 weeks)				8	3	102	
Ovis aries	1					1		
Capra hircus	2 (1 Juvenile)						2	
Ovis/Capra	2 (1 Juvenile)	1	2	2	5	1	10	
Praomys natalensis	1					8	12	
Medium sized rodent	5					3	24	
Agama sp.	1					8		
Bufo sp.	5						78	
Bullfrog	1						1	
Pit 13A								
Homo sapiens sapiens	1 (13–19 years old)					10	3	
Ovis/Capra	1						1	
Pit 21								
Bos taurus	1						1	
Ovis/Capra	1					1		
Partridge-sized bird	1						1	
Achatina sp.								1
Ash Heap								
Homo sapiens sapiens	1						1	
Hyaena sp.	1				1			
Ovis aries (1 ♀)	3 (2 Juveniles)						12	
Capra hircus	2						3	
Ovis/Capra (1 juvenile ♂)	8 (1 neonate, 4 Juveniles, 3 adults)	3	14	5	19	2	57	
Sylvicapra grimmia	1						2	
Tragelaphus scriptus (1 ♂)	2						3	
Bov. I	2 (1 Juvenile)						7	
Bov. II	1						2	
Bov. III	1						1	
Small mammal	1						6	
Murid sized rodent	1					3	2	
Praomys natalensis	7 (1 Juvenile)					15	4	
Large rodent	1						1	
Francolinus cf. *Swainsonii* or *afer*	1						2	

Magogo. Species Present (*continued*)

		Teeth				Skeletal part		
Species	MNI	Tooth rows	Deciduous	Unerupted	Permanent	Cranial	Postcranial	Shell or Carapace fragments
Tortoise	1							1
Frog	1						2	
Clarias sp.	1					1	4	
Labio sp.	1					2	3	
Fish (Indeterminate)	1						1	
Achatina sp.	1							1
Large freshwater bivalve	1							1
Slag Heap								
Canis cf. *familiaris*	1						1	
Bos taurus	1				1			
Ovis aries (2 ♂)	2 (1 Juvenile)						2	
Ovis/Capra	4 (1 Juvenile)	1			9	1	30	
Pelea capreolus	1 (Sub-adult)	1	1		3	5	2	
Tragelaphus angasi	1						1	
Bov. I	1						2	
Bov. II	1						1	
Bov. II (non-domestic)	1 (Juvenile)						2	
Bov. III	1						1	
Tortoise	1							1
Bufo sp.	1						3	
Group 2								
Pit 4								
Canis familiaris	1 (Juvenile)			1				
Bos taurus	1 (Juvenile)	1	4	1	1			
Ovis aries	2 (Males)				1	1	3	
Ovis/Capra	2 (1 Juvenile)	2	2		6	5	7	
Bov. I	1 (Juvenile)						1	
Aethomys chrysophilus	2					2	20	
Praomys natalensis	1				4	3	9	
Snake (Skull ± 5 cm long)	1					12	275	
Xenopus sp. (Platana)	1						33	
Achatina sp.	1							3
Pit 5A								
Bos taurus	2 (1 Juvenile)				1		4	
Ovis aries	1						1	
Capra hircus	1						1	
Ovis/Capra	2 (1 Juvenile)	1	3	2	2	2	21	

Magogo. Species Present (*continued*)

		Teeth				Skeletal part		
Species	MNI	Tooth rows	Deciduous	Unerupted	Permanent	Cranial	Postcranial	Shell or Carapace fragments
Bov. I	1 (Juvenile)						2	
Lepus sp.	1						2	
Fish (Indeterminate)	1						1	
Pit 15								
Ovis aries	2 (1 Juvenile)						2	
Capra hircus	1						1	
Ovis/Capra	3 (1 Juvenile)	1	4	1	6		15	
Bufo sp.	1						2	
Group 3								
Pit 6								
Bos taurus	1				1		2	
Ovis aries	1 (Juvenile)	1	2	1	2		1	
Ovis/Capra	3 (1 Juvenile)				6	2	8	
Pelea capreolus	1						1	
Bov. I	1						3	
Lepus sp.	1						2	
Murid-sized rodent	1						3	
Medium sized rodent	1						3	
Pit 13B								
Homo sapiens sapiens	1 (Juvenile)						3	
Canis mesomelas or *C. familiaris*	1					1	2	
Canis mesomelas	1				1			
Panthera pardus	1				1			
Ovis aries	3 (2 Juveniles)		4	1	3	4	1	
Capra hircus	1 (Juvenile)						1	
Ovis/Capra	13 (11 Juveniles)	15	52	22	27	35	8	
Ovis/Capra neonate	2 (1–2 weeks old)					11	17	
Bov. I	1						1	
Potamochoerus porcus	1				1			
Small mammal	1						1	
Bufo sp.	1						5	

Ash Heap. *B. taurus* may be represented by the Bov. III postcranial remains; in this case it could well be the same individual as in Pit 1.

The human material consists of an upper and lower P4; as with the other *Homo sapiens* material it is probably the result of a disturbed burial.

The Bov. I material could have been from the same individual as in Pit 1; however it is unlikely that the smaller animals and reptiles are the same individuals as those in other pits. *Praomys natalensis*, the multimammate mouse, is recorded from Natal; previously known as *Mastomys natalensis* this prolific breeder is commensal with man.

A small assemblage of bone (167 pieces weighing 310 gm) comes from an erosion gully which had partially destroyed Pits 1 and 2. The species list from this feature included the left scapula of *B. taurus* which may also be the same specimen as the one in Pits 1 and 2. The same is true of the Bov. I material. A very weathered, unfused epiphysis was rather tentatively identified as *Hippopotamus amphibius* (a hippopotamus). The fragment may be a portion of a distal radius; at best it can be ascribed to a very large mammal. The tooth fragment described as *Phacochoerus aethiopicus* (warthog) was very small; it could conceivably come from a bushpig, *Potamochoerus porcus*, since this species is represented by a perforated tooth in Pit 13B. It is unlikely to be the same individual as that in 13B because of the time difference but in view of the presence of the one pig species there is no reason to assume that both species are present.

Pit 5 yielded a small assemblage of 459 bones (260 gm). The species list is almost identical to that of the other pits. The only interesting feature of the assemblage is the major part of the skeleton of a very young individual of *Canis adustus*, the side-striped jackal. The species identification was based on the teeth; the age was estimated by utilising a series of photographs of young jackals. The specimen is so complete that it is most likely that it died in a burrow in the pit.

Pit 13A yielded a very limited sample of 30 specimens. The only identified remains are various fragments of a sub-adult (13–19 years old) human being and a postcranial fragment of *Ovis/Capra*.

Pit 21 also produced a very small sample (22 specimens). All the species were already represented in the other samples except for the partridge-sized bird.

Ash Heap

This feature produced the largest faunal assemblage from the site (1 023 pieces with a mass of 1 810 gm). It is a midden deposit, much like the northern Transvaal EIA midden features. The species list is varied. Both sheep and goat have been identified. The human material is very likely in this situation to have come from a disturbed burial. The Bov. I and *Sylvicapra grimmia* (common duiker) material could possibly have come from one of the other large duiker species, but did match the *S. grimmia* material available with regard to size. The *Tragelaphas scriptus* (bushbuck) specimens were identified on the basis of postcranial material; the male animal was identified on a pelvic fragment. The isolated premolar identified as *Hyaena* sp. cannot be more closely identified. The multimammate mouse is too well-represented to be a fortuitous occurrence and was most likely a food item. The francolin tarsometatarsus was initially identified as belonging to a domestic chicken; comparison with material in the Ornithology Department of the Transvaal Museum showed that the two large species of francolin (but *not* the guineafowls) carry spurs very close in size to this specimen. Consequently the material should be considered as belonging to a wild species.

Slag Heap

Not surprisingly, this dump of the by-products of smelting contained very little fauna (336 pieces, 630 gm). The domestic dog, *Canis familiaris*, was identified on the basis of a tarsal bone. It should be regarded as a rather tentative identification, especially since this would be the earliest known published specimen of *C. familiaris* in southern Africa. The specimen of *B. taurus* is a different individual from that in Pit 1 on the basis of tooth wear. The *Pelea capreolus* (vaal rhebok) specimen was identified on the basis of teeth and postcranial material; the latter was close in size to our comparative skeleton. The identification of *Tragelaphus angasi* (nyala) is interesting as the site lies well outside the present range of the species. Klein (in Maggs & Michael 1976) identified nyala at the neighbouring site of Ntshekane; these two occurrences suggest an extended range for the species during EIA times.

Group 2 (Pits 4, 5A and 15)

The chronological position of these samples is not as clear as could be hoped for; dates are awaited for Pit 4. The three faunal samples available are relatively small (518, 467 and 141 specimens respectively).

The species present are listed in Table 2 and include no major new additions except for *Aethomys chrysophilus*, the red veld rat, and a snake. The snake skeleton is represented by a large enough number of bones to suggest the natural death of an individual in the fill of Pit 4. Sheep, goats and cattle are present. The *B. taurus* material comes from at least two, probably three, individuals. The *C. familiaris* identification is based on a deciduous tooth; in this regard the dating of Pit 4 becomes very important.

Group 3

Pit 6 (310 fragments weighing 910 gm)

The faunal list from this pit is very similar to that from 5A, the only difference being the presence of two rodents and of *P. capreolus*. The *B. taurus* specimen is a different individual from those identified in pits 4 and 5A.

Pit 13B

This was not by any means the largest collection but it produced the second highest MNI count on the site. The collection is twice the size of that from Pit 6 (726 fragments) yet its weight is almost exactly the same (925 gm). This is at least partly due to the high proportion of juvenile specimens. This pit may represent an anomolous collection due to some ritual or other function as commented on by Maggs & Ward (1984). Such a use would affect the interpretation of the remains.

The collection is dominated by ovicaprine remains which constitute 26 % of the sample; the other identified material contributed only 2 % to the sample. The non-bovid group consists mainly of carnivore fragments, two of which are drilled teeth. The canid specimen was unfortunately too fragmentary for it to be identified specifically, although it was very close to *C. familiaris* with regard to size.

The most unusual feature of this assemblage is the very large number of bones from very young ovicaprines. Of the 15 ovicaprine individuals only two were adults. Two specimens were not much more than a few weeks old while one had unerupted deciduous teeth and was either foetal or newly born. Four more specimens were less than three months old; thus almost half of this group fell below that age.

As shown in Table 7 these specimens are not only represented by teeth. A fatality rate of this proportion would seriously impair the growth of any flock, and could be expected to add little to the diet of the people concerned. The high proportion of young animals might however reinforce the idea that the assemblage from this pit might represent some ritual activity.

A small amount of material was included in the assemblage which came from mixed surface scrapings or erosion features. This material all belonged to either *B. taurus* or *Ovis/Capra*; two of the specimens are mandibles of very young sheep or goats from a donga close to squares I3/H3. The material fits into the general faunal pattern from the site.

ECONOMIC BASIS AND DIET

The communities at Magogo were indulging in a small amount of hunting with the possible snaring and collecting of small mammals such as rodents and amphibians. An informant who described hunting in earlier years to the excavator specifically mentions the hunting of duiker, bushbuck, grey rhebok, hares, guineafowl and lizards (Maggs, pers. commun.), most of which are represented in the sample. The multimammate mice and amphibians are numerically visible enough to suggest something more than natural fatalities, but I would be a little cautious in regarding them as specific food animals for the inhabitants of the settlements. Bearing these reservations in mind, the communities appear to have depended almost entirely on domestic and wild bovids for subsistence.

The bovid sample is heavily weighted in favour of the ovicaprines. If the problems of the representation of a single animal in more than one pit are taken into account, the presence of *B. taurus* may be limited to two specimens in the seven Group 1 pits, three in the three Group 2 pits and one in the two Group 3 pits. In calculating the meat weight contribution the body weight is divided proportionately between the pits on the (hopefully correct) assumption that a complete individual was originally involved (Table 4).

Many of the MNI counts of *Ovis/Capra* are based on cranial material. Since some *Ovis/Capra* postcranial material is present in each pit, I have assumed that complete animals were involved. Mention has already been made of the large number of neonate or very young specimens belonging to this group. Carcasses of very young animals are unpalatable; I have therefore taken a more conservative approach than in earlier analyses and have assumed that sheep or goats belonging to Age Class 1 (animals younger than three months) would not have been eaten and are not therefore included in Table 4. This assumption is at least partially borne out by statements made by informants during a recent field trip. Their general comment was that very young animals were not eaten, they were discarded in one way or another. In the presence of dogs their carcasses would undoubtedly have been subjected to scavenging. The presence of most elements of two neonate specimens in Pit 13B strongly suggests dumping of dead animals in the pit.

In five of the twelve pits ovicaprines are the only domesticates contributing to the diet. In those pits in which *B. taurus* has been identified, the large bovine contributes the larger quantity of meat. In the larger samples, each pit represents a yield of 40 kg of ovicaprine meat or more; in spite of the high number of very young animals the Pit 13B sample provided the largest meat weight sample of over 100 kg of meat.

In every pit the ovicaprines dominate the domesticates in terms of MNI counts. In the total sample the cattle, which represent a slender 11,7 % of the MNI count, contribute 64,7 % of the meat to the diet. This assemblage is a very clear example of how a few large individuals can skew the results of a dietary analysis. The Magogo assemblage appears to indicate a sporadic input from *B. taurus*; the numbers point quite clearly to a sustained dependence on ovicaprines as a food source.

In this regard it is tempting to suggest that the Magogo communities had only limited access to cattle. I believe that this assemblage clearly reflects an economic basis dependent upon the herding of small stock rather than large, and that it was these flocks which provided the regular source of meat for the community.

ASPECTS OF ANIMAL HUSBANDRY

Age at death

The small collection of *B. taurus* material includes a single juvenile individual (younger than 18 months). Two permanent teeth with light wear suggest that at least one other individual was a young but mature animal. The small sample is a pale reflection of the pattern found on other Iron Age sites; because it cuts across a time change it has little significance.

The picture which emerges with the *Ovis/Capra* specimens calculated on the tooth eruption and wear patterns suggested in Voigt (1983), is given in Table 5.

In the collections from the Group 1 units mature animals form a larger proportion of the *Ovis/Capra* group than they do in Groups 2 and 3. The oldest age class is barely represented in all three units, while the youngest class is particularly well represented in Pit 13B. The Slag Heap and Pits 15 and 6 yielded only individuals of Age Class III or older. However in all the other pits and features animals of ten months or younger are well represented. In the total sample 19 out of 51 specimens fall into this category; nine of the 19 came from Pit 13B.

The animals represented in the sample therefore come mostly from the very young to young mature age groups. As mentioned earlier, it is unlikely that the youngest group (Age Class 1) would have contributed to the diet. Nevertheless,

TABLE 4

Magogo. Meat contribution to diet by domesticates.

		Group 1							Group 2			Group 3		Total	
	Provenance:	Pit 1	Pit 2	Pit 5	13A	21	Ash Heap	Slag Heap	Pit 4	Pit 5A	Pit 15	Pit 6	13B	No	%
Bos taurus	Adults:														
	MNI	1/3	1/3	0	0	1/3	0	1	0	1	0	1	0	4	7,8
	Meat wt (kg)	83,0	83,0	—	—	83,0	—	249.0	—	249.0	—	249,0	—	996,0	53,9
	Juveniles:														
	MNI	0	0	0	0	0	0	0	1	1	0	0	0	2	3,9
	Meat wt	—	—	—	—	—	—	—	99,0	99.0	—	—	—	198,0	10,7
	Total meat	83,0	83,0	0	0	83.0	—	249.0	99.0	348,0	0	249,0	0	1194,0	64,7
Ovicaprines	Adults:														
	MNI	2	3	2	1	1	3	4	1	1	2	2	2	24	47,1
	Meat wt	32,0	48.0	32,0	16,0	16,0	48,0	64,0	16.0	16.0	32.0	32,0	32,0	384,0	20,8
	Juveniles:														
	MNI	3	2	2	0	0	3	0	1	1	1	2	6	21	41,2
	Meat wt	38,4	25.6	25.6	—	—	38.4	—	12,8	12,8	12,8	25,6	76.8	268,8	14,6
	Total	70,4	73,6	57.6	16,0	16,0	86,4	64,0	28,8	28,8	44.8	57,6	108,8	652,8	35,4
Total Meat Wt	153,4	156,6	57.6	16.0	99,0	86.4	313.0	127,8	376.8	44.8		306,6	108,8	1846,8	

Note: 'Meat wt' is 50% of live weight (in kilograms) as given by Voigt (1983).

TABLE 5

Magogo. Age of *Ovis*/*Capra* on basis of tooth eruption patterns.

	Group 1						Group 2			Group 3		Group 2 & 3
Age Class	Pit 1	Pit 2	Pit 5	Ash Heap	Slag Heap	Total	Pit 4	Pit 5A	Pit 15	Pit 6	Pit 13B	Total
I (Less than 3 months)	1	0	0	2	0	3	0	0	0	0	5	5
II (3–10 months)	1	1	1	2	0	5	1	1	0	0	4	6
III (10–16 months)	2	1	1	1	0	5	0	0	1	2	2	5
IV (16–30 months)	1	1	0	1	2	5	0	0	1	2	1	4
V (30–60 months)	1	2	2	1	1	7	1	1	1	0	0	3
VI (More than 60 months)	0	0	0	1	1	2	0	0	0	0	1	1
Total	6	5	4	8	4	27	2	2	3	4	13	24

one has to explain the presence of large numbers of juveniles. A similar pattern has been noted at Msuluzi Confluence (Voigt 1980); it has been suggested that a high percentage of youthful fatalities may reflect pioneer groups herding their flocks in an alien and potentially unfriendly environment (Voigt & Plug 1984). The high proportion of young animals in Pit 13B might possibly be interpreted in terms of rituals or of deaths due to drought or to environmental deterioration. This possibility is discussed later.

Male or Female?

Hornless rams are common among many of the so-called 'indigenous' breeds of sheep. Nevertheless the presence or absence of horns is our only hope of separating male from female in analysing cranial remains, and as a general rule we tend to accept that hornless skulls come from females. The pubis and acetabulum of the pelvis is a more accurate means of identifying the sex of a bovid but this is obviously heavily dependent upon preservational factors. Both systems have been utilised in the present analysis.

Nine of the eleven specimens which could be identified as regards their sex, were males. Eight of the eleven specimens belonged to *O. aries*; two of the three *Ovis/Capra* specimens were juveniles. This small collection therefore argues strongly in favour of the culling of male animals and the possibility that the two mature females might have been natural fatalities.

The culling of male animals of about a year old could reduce breeding competition within a flock but, in the absence of the need to breed for specific characteristics, has little or no logical reasoning behind it. It would make better economic sense to allow all the males to reach two years or more before culling, as they would then be carrying a reasonable amount of meat.

Size of animals

Little can be said about the size of the domesticates present in the sample. The proximal metacarpal of *B. taurus* from Pit 6 has a proximal width of 63,0 mm. This is larger than any of the material measured during the Mapungubwe study, the largest metacarpal in that study being from K2 at Mapungubwe (with a proximal width of 59,8 mm). It is possible that the Magogo specimen comes from a bull; no definite male material was available for the Mapungubwe study. It is considerably smaller than the eland and buffalo material available for comparison. The width of the distal articulation of the metatarsal from the same pit (52,8 mm) is within the range of the material measured in the Mapungubwe study. Thus some at least of the cattle material at Magogo was from animals which were the same size as the Mapungubwe and modern Pedi and Nguni cattle (Voigt 1983). The metatarsal from Pit 6 shows a slight roughening of the surface of the bone above the articulation; this may have been due to low-level infection of the periostum.

Five measurable astragali were identified; three came from *O. aries* and two from *C. hircus*. These measurements will be used at a later date for comparison with Ndondondwane material; the initial impression is of medium-sized sheep and one rather smaller goat, the other goat specimen being the same size as the sheep.

BONE PRESERVATION AND TAPHONOMY

Bovid skeletal parts

The wild bovids are mostly represented by postcranial fragments.

The ovicaprine remains included a large number of teeth, including numerous toothrows, and a wide range of postcranial remains. The assemblages of postcranial material are small; the largest collection (92 body fragments) came from Pit 1. The pattern of skeletal part representation is the same throughout all the pits. Smaller bones such as sesamoids, carpals, tarsals and terminal phalanges tend to be under-represented (Tables 6 and 7).

Articulating bones were uncommon. In the *Ovis/Capra* material articulating last cervical/first thoracic vertebrae were found and an unfused second phalanx which articulated with a terminal phalanx. The former specimen came from Pit 15, the latter from the Ash Heap.

Damage to the bone

The amount of damage caused by butchering, burning, rodent and carnivore gnawing and weathering was noted throughout. Butchering damage (marks caused by cutting and chopping) was relatively rare; 2,2 % of the total sample showed such damage. Damage caused by burning, was, however, relatively common with 14,8 % of the total sample showing evidence of burning. In the collection from the Ash Heap, 26 % of the bones showed burning damage; the next highest proportion was in Pits 1 and 2 with 16,8 % and 17,4 % respectively.

Rodent gnawing damage was not common (1,4 % of the total sample) and gnawing or chewing by carnivores even less common (0,6 % of the total sample). The carnivores involved were relatively small and may have been domestic dogs. Weathering was uncommon, most of the bone being in good condition.

The low proportion of human and rodent damage is similar to the situation at Msuluzi Confluence, although such damage may have been masked in the Msuluzi collection by the extensive weathering of much of the material.

All the bone flakes from each unit were measured; they showed a numerical peak in the 2–3 cm size class. This is the most common bone flake size class in most Iron Age bone assemblages. The sizes of the bone flakes for Groups 1, 2 and 3 are plotted on Fig. 1; there is nothing unusual in this fragmentation pattern. As a further check on the degree of fragmentation, the total weight of bovid remains was divided by the total number of bovid fragments in that unit. This 'fragmentation index' indicates the average weight per identified specimen for bovid skeletal parts. This varied enormously from 3,1 gms in Pit 13B to 8,4 gms in Pit 4. In Pit 6 and the gully in Pit 2 the index was higher, ie. 12,4 gms and 13,0 gms respectively. In Pit 6 this is probably due to the fact that the relatively small collection (29 specimens) of bovid remains included the *B. taurus* metacarpal and metatarsal remains mentioned earlier.

CULTURAL MODIFICATION OF BONE

Bone tools have been recorded from most Iron Age sites which have adequate preservation of bone. In the Magogo collection submitted for analysis there were

TABLE 6

Magogo. Group 1. *Ovis/Capra* skeletal parts and minimum number of individuals.
Numbers in parenthesis indicate number of juveniles. Superscript numbers indicate number unfused.

Skeletal part	Pit 1		Pit 2		Pit 5		Ash Heap		Slag Heap	
	No.	MNI	No.	MNI	No.	MNI	No.	MNI	No.	MNI
Premaxilla	1	1	1	(1)	0	0	1	1	0	0
Hyoid	2^2	(1)	3	(2)	0	0	0	0	0	0
Mandibular	3^1	2(1)	0	0	0	0	1	1	0	0
Skull fragments	1	1	1	1	1	1	0	0	1	1
Sternum	0	0	0	0	0	0	1	1	0	0
Scapula	3	2	0	0	3	(1)	4^1	2(1)	1	1
Humerus	2	1	1^1	(1)	0	0	1^1	(1)	1	1
Radius	2	1	3^1	2(1)	1	1	9^3	3(2)	1^1	(1)
Ulna	0	0	2	2(1)	1^1	(1)	2^1	(1)	1	1
Pelvis	8^4	4(3)	3^1	2(1)	1	(1)	6^2	3(2)	4	2(1)
Femur	7^4	(2)	2^2	(1)	0	0	1	1	4^2	2(1)
Tibia	2	(1)	3^1	2(1)	3	2(1)	2^1	2(1)	8^1	3(1)
Metapodial	29^4	3(2)	10^2	2(1)	1	(1)	9	3(2)	2	1
Astragalus	0	0	0	0	0	0	2	2(1)	3	3
Calcaneum	1	1	0	0	0	0	1	1	1	1
Sacrum	0	0	0	0	0	0	1	1	0	0
Lateral malleolus	0	0	0	0	0	0	0	0	1	1
Naviculo cuboid	3	2	1^1	(1)	0	0	1	1	0	0
Carpal/tarsal	5	1	1	1	0	0	2	1	0	0
Sesamoid	1	1	0	0	0	0	0	0	0	0
Phalanx 1	13^1	2(1)	6^1	2(1)	0	0	9	2(1)	3^1	2(1)
2	4^2	2(1)	2^1	2(1)	0	0	3^1	2(1)	0	0
Terminal phalanx	0	0	0	0	0	0	2	(2)	1	(1)
Long bone shafts	5	(2)	0	0	0	0	1	1	0	0
Total	92		39		11		59		31	
Total: Burnt	15		6		1		18		10	
Damaged	9		4		2		12		10	
Rodent gnawing	6		4		1		12		10	
Carnivore gnawing	7		0		2		2		2	
Weathered	4		2		0		3		7	

TABLE 7

Magogo. Groups 2 & 3: *Ovis/Capra* skeletal parts and minimum numbers of individuals. Number in parenthesis indicates juveniles. Superscript numbers indicate number unfused.

Skeletal Part	Pit 4		Pit 5A		Pit 15		Pit 6		Pit 13B Juvenile and Adult		Pit 13B Neonates Infantile		Pit 13B Total
	No.	MNI	No.	MNI	No.	MNI	No.	MNI	No.	MNI.	No.	MNI	No.
Pre-Maxilla	2	2	0	0	0	0	0	0	2	2	0	0	2
Hyoid	0	0	1	1	0	0	1	1	0	0	0	0	0
Mandible	1	1	1	1	0	0	0	0	0	0	2	(2)	2
Skull fragment	2	1	0	0	0	0	0	0	33	(1)	8	(2)	41
Atlas/axis vertebra	0	0	0	0	0	0	0	0	0	0	2	(1)	2
Scapula	0	0	0	0	1	1	0	0	0	0	0	0	0
Humerus	2	2(1)	1	1	1^1	(1)	2^1	(1)	1	(1)	4^2	(2)	5
Radius	1	1	1	(1)	0	0	1	1	1^1	(1)	3	(2)	4
Ulna	0	0	1	1	1	1	0	0	0	0	1	(1)	1
Pelvis	1	1	4	2	1	1	1	1	0	0	1	(1)	1
Femur	1	1	2	(1)	3^2	2(1)	1	1	0	0	1	(1)	1
Tibia	1^1	(1)	3^1	2(1)	1	1	1^1	(1)	1	1	1	(1)	2
Metapodial	0	0	5^2	2(1)	2	1	0	0	2^1	(1)	2^1	(2)	4
Astragalus	0	0	1	1	1	1	0	0	0	0	0	0	0
Calcaneum	0	0	0	0	0	0	0	0	1	1	0	0	1
Patella	0	0	1	1	0	0	0	0	0	0	0	0	0
Sesamoid	0	0	0	0	0	0	0	0	1	1	0	0	1
Naviculo-cuboid	0	0	1	1	1	1	0	0	0	0	0	0	0
Carpal/tarsal	0	0	1	1	1	1	0	0	0	0	1	(1)	1
Phalanx 1	1^1	(1)	0	0	2^1	2(1)	1	1	1^1	(1)	0	0	1
2	0	0	0	0	0	0	1	1	0	0	0	0	0
Terminal phalanx	0	0	0	0	0	0	0	0	0	0	1	(1)	1
Total	12		23		15		9		43		27		70
Total: Burnt	1		2		0		0		1		0		
Damaged	5		7		2		1		1		2		
Gnawed													
(rodents)	6		4		2		2		0		4		
Carnivore	1		1		1		1		1		2		
Weathered	1		3		1		1		1		4		
Utilised	1		1		0		1		0		0		

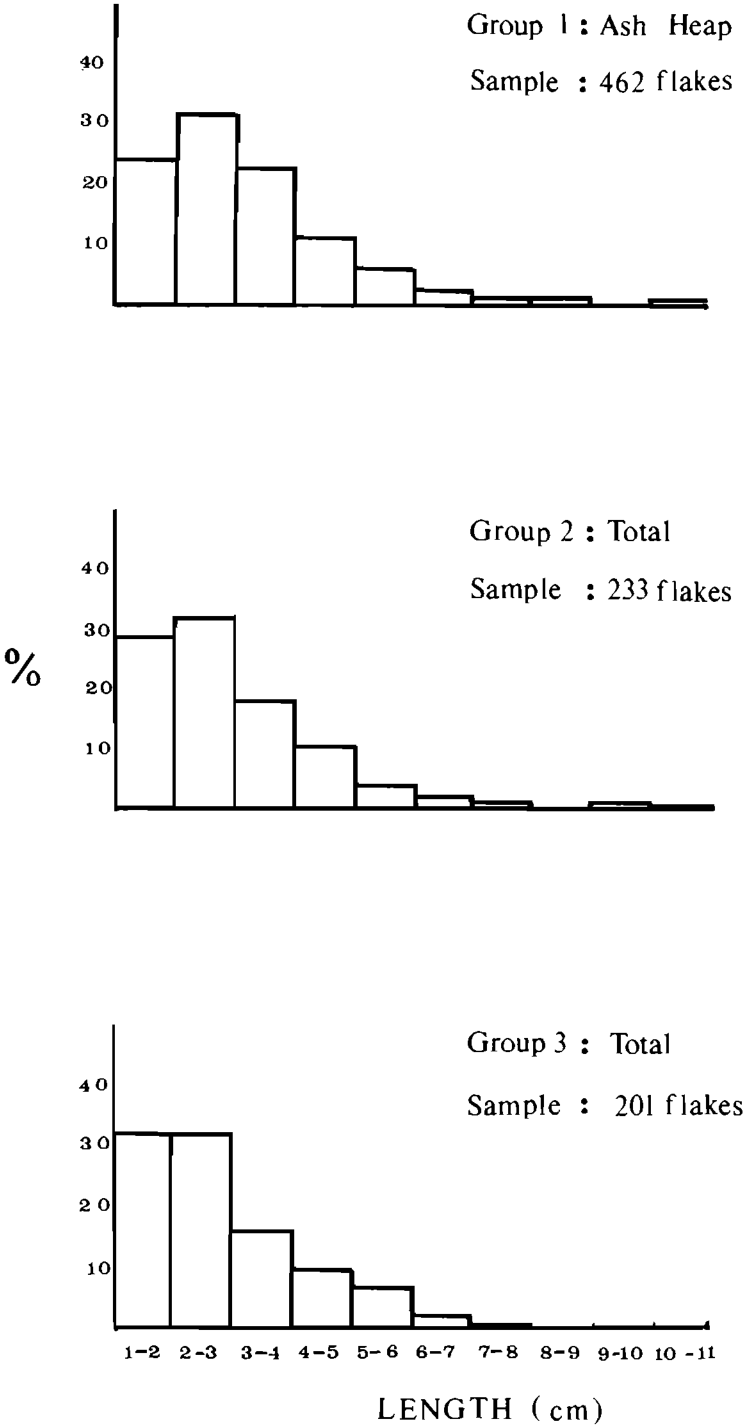

Fig. 1 Size distribution of bone flakes from Magogo.

six bone fragments which were shaped in one way or another by polishing. These are listed below (see Maggs & Ward 1984).

Modified bone

Ash Heap: Bov. I ulna shaft in which the distal end has been utilised to form a flat, V-shaped end.

Bone flake, incompletely polished, with a blunt, polished point. (Bone tool type 517, Voigt 1983).

Slag Heap: Splinter from a relatively thick bone, possibly from a Bov. III, chiselled into a roughly rectangular section then lightly smoothed off. Both ends broken, possibly originally a blunt point.

Pit 5A: Left proximal radius of *O. aries*. Broken end of diaphysis has been utilised, resulting in a blunt point.

Bone fragment with one convex edge resulting from polishing.

Pit 6: Fragment from a large rib with one end abraded to form a convex edge.

In addition the collection included a left astragalus of a sheep or goat from the Slag Heap which had been abraded on the lateral and medial surfaces. Similar astragali have been recorded from other Iron Age sites (such as Schroda in the northern Transvaal: Voigt & Plug 1981:61; Plug 1981 (Taukome)) and may relate to the activities of witchdoctors. A trapezoidal flake from Pit 1 had small ‘nicks’ taken out of the edge all the way round the specimen. This may be human modification or it may be the result of rodent gnawing. Two fragments of bone recovered from the Ash Heap had red ochre rubbed onto them. One is a triangular bone flake, the other is the distal end of a left calcaneum from *T. scriptus* (bushbuck). The above specimens are not unusual for an Iron Age assemblage. However four particularly interesting specimens came from the Ash Heap, Pit 13B and the gully running though I2.

Ash Heap: A fragment of an ivory bangle came from Square H5. Both edges are flat; the outer surface is smooth but slightly convex. The inner surface is irregular. The thickness of the fragment increases towards one edge. The depth of the bangle is 21,2 mm. It is narrow compared to the Happy Rest specimen (Voigt & Plug 1984). It is very similar to the bangle fragments from Broederstroom in the Transvaal (Van Genderen 1974).

Pit 13B: Panthera pardus. Right lower canine, drilled through root for suspension. The perforation is straight-sided. *Potamochoerus porcus.* Left lower I2, drilled through root for suspension. The size and curvature of the tooth suggests that it came from a female animal.

I2, Gully: Canis mesamelas. Left lower canine, hourglass-shaped perforation drilled through root. Tooth later gnawed by rodents.

Ivory bangles occur sporadically on many sites; a review is given in Voigt (1983). Perforated teeth are less common. It is interesting to note that similar carnivore teeth occur at Ndondondwane; on this site the inhabitants even went so far as to manufacture tooth-shaped items from bone to use in the same way (Voigt & Von den Driesch 1984).

The Magogo faunal assemblage has produced some extremely interesting information on this EIA community. Before taking a closer look at the significance of the collection, a very much smaller assemblage from the nearby site of Mhlopeni is described below.

MHLOPENI

A small faunal assemblage from Pit 1 (27 pieces) and Burial 1 (one mandible) on the Mhlopeni site was submitted for analysis (Table 8). The mandible from Burial 1 belonged to a juvenile (Age Class III) individual of sheep or goat.

All the Pit 1 material belonged either to *O. aries* or *Ovis/Capra*, with the exception of a small murid. The three sheep include a young male individual while two adults were identified on the bones of two left naviculo-cuboids. The teeth represented one specimen each of Age Class I, II and III. Two specimens showed chopping damage, one was gnawed and one burnt.

The sample therefore included the remains of five ovicaprines, three of which were juveniles. The age distribution is an extreme version of the pattern found at Magogo; it is a pity that a larger sample is not available.

TABLE 8

Mhlopeni. Species Present.

Tooth rows: Number of tooth rows. Number of teeth listed in columns according to eruption.

		Teeth				Skeletal part	
Species	MNI	Tooth rows	Deciduous	Unerupted	Permanent	Cranial	Postcranial
Pit 1							
Ovis aries (Juvenile ♂)	3 (1 Juvenile)					3	3
Ovis/Capra	3 (3 Juveniles)	2	3	3	3		4
Murid-sized rodent	1						1
Total sample size							
Ovis aries	3 (1 Juvenile)						
Ovis/Capra	(2 Juveniles)						
Rodent	1						
Burial 1							
Ovis/Capra	1	1	3	1	3		

CONCLUSIONS

The Magogo faunal assemblage is at present the largest published faunal sample from the EIA and as such is very important as an aid to understanding the subsistence base of EIA communities in Natal. The total bone assemblage from the Broederstroom site in the Transvaal is larger, but also spans two time periods (Mason, Brown, Fatti & Beardall 1983).

Three important factors emerge with regard to the species present. The assemblage provides us with excellent evidence for both sheep and goats in Natal at A.D. 590. Earlier sheep have been recorded from Stone Age sites in the Cape (Deacon, Deacon, Brooker & Wilson 1978) and Von den Driesch identified sheep material at Broederstroom during her visit (Brown in prep.). Sheep numerically outnumber goats 2:1 in the collection in terms of MNI counts. Early goats have been identified at Happy Rest in the Transvaal, where they are associated with dates of A.D. 350 and 470 (Voigt & Plug 1984), and at Broederstroom (Mason 1981).

It has been postulated that the earliest Iron Age herders might have had sheep only; the evidence from Magogo indicates the presence of both sheep and goats on this early site. I believe the important factor here is that cattle were not numerically significant in the collection.

The small sample from Mhlopeni indicates that this community, too, was dependent upon small stock for meat. There is no clear evidence of the presence of *C. hircus* in the Mhlopeni collection.

The question of the date of appearance of domestic dogs in South Africa is a problem in faunal studies. Prior to this analysis the earliest domestic dog was from Cape St Francis, Cape, and was dated to A.D. 800. (Voigt 1983). Excellent specimens of *C. familiaris* have now been recorded from Ndondondwane (A.D. 750) (Voigt & Von den Driesch 1984). The Magogo specimens from the Slag Heap and Pit 4 are apparently now the earliest records for this species in South Africa.

The presence of nyala, bushbuck and bushpig indicate that the inhabitants had access to heavily wooded zones. The gorge at Mhlopeni might have provided a suitable sanctuary for these species; no great distance would be involved in gaining access to them. The grey rhebok is a high mountain grassland species with a preference for hilly country. They could almost certainly have been found on the high altitude grasslands above the Mooi River Valley (Dorst & Dandelot 1980). The wild bovid species thus indicate sporadic utilisation of the higher altitude areas near the site. The presence of nyala on the site is interesting from the zoogeographical point of view. The material provides support for Klein's identification of the species at Ntshekane and for a southward and westward extension of the present range for this species.

The faunal sample indicates that the communities in question were dependent upon small stock for their regular food source. This confirms the fragmentary picture obtained from the Lydenburg Heads, Happy Rest and Msuluzi Confluence sites (Voigt 1982, Voigt & Plug 1984, Voigt 1980).

The preponderence of very young animals is, however, puzzling. In the early part of the occupation it may indicate that the inhabitants were experiencing problems in flock management in a newly settled environment. Since several of the individuals may have been too young to be of use as food, the selection for young animals as food appears to be unlikely.

Unless the contents of Pit 13B has some ritual significance, the disproportionately high number of very young individuals at the closing stage of the occupation is an interesting phenomenon which could perhaps be interpreted in terms of high stock losses due to environmental deterioration caused either by over-utilisation or drought. The high number of *Praomys natalensis* specimens in the Ash Heap may indicate a similar situation at the end of the A.D. 590 occupation, although there is no direct evidence that this feature represents the close of the occupation. The species has a preference for grain and freely enters huts, breeding in the thatch or under the floors and in the walls. They are often found in the scrub fences around cultivated lands. It is interesting to note that they are regarded by mammalogists as being a 'pioneer' species in that they are one of the first species to become established in an area which is recovering from habitat destruction (De Graaff 1981:209–213). An alternative interpretation would be that *P. natalensis* had colonised the disused ash midden once the settlement had been abandoned.

It is tempting to interpret the high sheep/goat mortality and the presence of *Praomys natalensis* as evidence for environmental deterioration. The loss of young animals on such a scale would seriously affect the stock holdings of the community. It may be that the EIA community in the shadow of Magogo had over-taxed the fragile Natal environment and had been forced to move away while they were still able to retain some of the small stock which formed the economic basis for their people. It may be significant that now, in the current (1982/83) drought period, the people around Ndondondwane have lost all their sheep but have managed to bring their goats and cattle through to a new summer in which rain is beginning to fall. Their stock is surviving, but their lands are deeply scarred by overgrazing. During the Iron Age it would have been time to move away.

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